

Work Order ID 140342

140342

To ship Jan 7/16.

December 22, 2015 10:53:06 AM

Page 1

Item ID: D3189-1 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Chaffing Shield
 Start Date: 12/22/2015 Start Qty: 30.00 *30* Cust Item ID:
 Required Date: 1/5/2016 Req'd Qty: 30.00 *30* Customer:
 Reference:

Approvals: Process Plan: 5th Date: 2015 12 22 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3189	D								
D412-664-243	F(DEO)								
100	SHEAR	0.00							
100									
Waterjet	Memo	0.02							
FLOW CNC Waterjet	1-Cut as per Dwg								
	Dwg Rev: <u>D</u>								
	Prog Rev: <u>D</u>								
	2-Deburr if necessary								
103	QC2- Inspect parts off machine FAI/FAIB	0.00							
103									
QC	Memo	0.01							
Quality Control									

(36) _____ on 12/01/05

(36) _____ on 12/01/05

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140342

Page 3

Item ID: D3189-1 Accept ***N900040100*** Setup Start ***NS1***
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 Required Date: 1/5/2016 Req'd Qty: 30.00 ***30*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
124		0.00							DAS 41 9-89
124						36			
HandFinish	Memo	0.02							
Hand Finishing	APPLY A THIN LAYER OF PROSEAL 890 TO CONCAVE SURFACE. (REF: AS PER DWG D412-664-243 (NOTE 15))								
	A/R PROSEAL 890 BATCH: <u>133532</u> exp 2/16								
127	QC3- Inspect Part Finish	0.00							DAS 38 9-89
127						(36)			
QC	Memo	0.01							
Quality Control									JAN 07 2016
130	Identify as per dwg & Stock Location: <u>LG051</u>	0.00							DAS 6 9-89
130						36			
Packaging	Memo	0.01							JAN 07 2016
Packaging	LOCATION: <u>LG053</u>								

Picklist Print

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Page 1

Work Order ID: 140342

140342

Parent Item: D3189-1

D3189-1

Parent Item Name: Chaffing Shield

Start Date: 12/22/2015

Required Date: 1/5/2016

Start Qty: 30.00

Required Qty: 30.00

Comments:

IPP B05.08.22 No longer made in-house KJ/JLM

IPP Rev:C 06-03-24 Rolling Now made in House JLM

IPP Rev:D 07-04-16 As per Rev B JLM

IPP Rev:E

11.05.11 now made on waterjet DD verf:JLM

IPP REV:F 14.02.12

AS PER DWG REV.D DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S24GA		Purchased		No			sf	76.3000		10.10526			

M304S24GA

304/316 .025 Sheet

**

02/16/01/05

Location

Loc Qty

Loc Code

MAT020

76.3

m132797

7.2

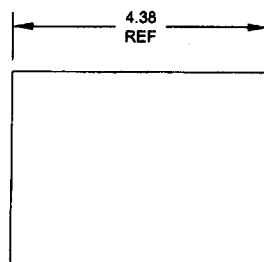
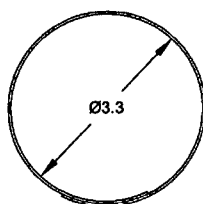
m133587

5.1

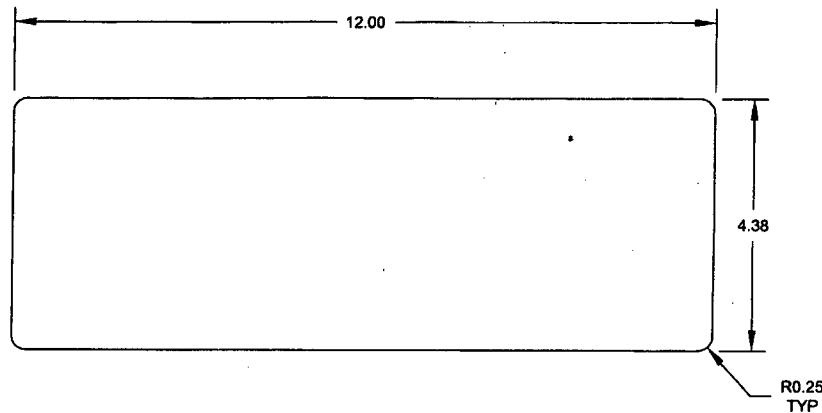
m133724

64

7
1.6
8.3



D3189-1 CHAFING SHIELD
(ROLL D3189-1F AS SHOWN)



D3189-1F FLAT PATTERN

NOTES:

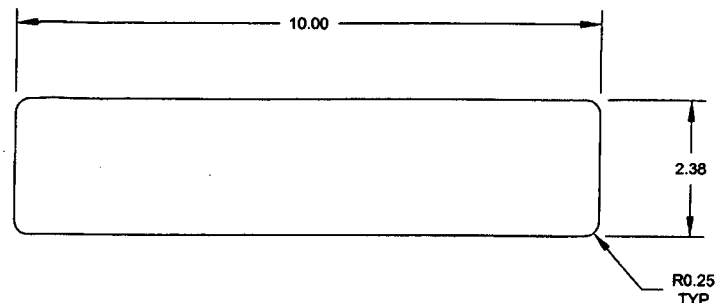
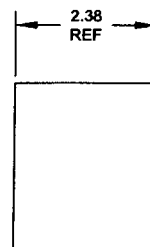
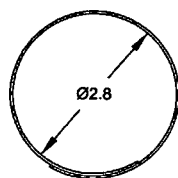
- 1) MATERIAL: AISI 304/316 SS, 24 GAUGE (0.025" THICK REF)
PER MIL-S-5059, AMS 5513, AMS 5524, ASTM A240, OR ASME SA240
REF. DART SPEC M304S24GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.30 lbs



REV.	DESCRIPTION	BY	DATE
D	24GA WAS 25GA (PAR 14-326)	CP	14.01.07
C	-1/3 ENLARGED TO REDUCE CHANCE OF DMG TO CROSSTUBE, ALL FILLETS INCREASED TO R0.25	CP	12.08.14
B	ADD -3	CP	07.01.05
A	NEW ISSUE	CP	03.05.08
DESIGN	DP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3189 TITLE CHAFING SHIELD SCALE NTS DATE 14.01.07 COPYRIGHT © 2003 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
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2014-02-10

20151222 SA 140342



D3189-3F FLAT PATTERN

D3189-3 CHAFING SHIELD
(ROLL D3189-3F AS SHOWN)

RELEASED
2014-02-10

NOTES:

- 1) MATERIAL: AISI 304/316 SS, 24 GAUGE (0.025" THICK REF)
PER MIL-S-5059, AMS 5513, AMS 5524, ASTM A240, OR ASME SA240
REF. DART SPEC M304S24GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.13 lbs



DESIGN	92	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED	A.P.	DRAWING NO.	REV. D
MFG. APPR.		D3189	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		CHAFING SHIELD	NTS
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Item	Qty -243	Part Number	Description
1	X	D412-664-243	CROSSTUBE ASSEMBLY (412 HIGH AFT)
2	1	D6009-129	CROSSTUBE
3	2	D3595-063-570	RUBBER CUSHION
4	1	D2896-1	SUPPORT
5	2	D3189-1	CHAFING SHIELD
7	4	MS21920-28	CLAMP
8	2	MS21920-30	CLAMP (OR MS21920-32)
9	A/R	SCOTCH-WELD DP460	EPOXY ADHESIVE, 3M SCOTCH-WELD
10	A/R	PROSEAL 890 B-2	SEALANT

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6009-129
FINISHED LENGTH = 124.100±0.020 (BEFORE BENDING)
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C6-2, HATCHED AREA)
PAINT OUTSIDE PER DART QSI 005 4.2
AFTER PAINTING, REMOVE MASKING AND APPLY MATTE CLEAR COAT
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED.
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
 - 6) IDENTIFICATION: DART P/N "D412-664-243" AND B/N ON INSIDE OF CUFF PER QSI 044 6.4 (VIBRATING STYLUS)
 - 7) WEIGHT: 47.0 lbs
 - 8) PART IS SYMMETRIC ABOUT CENTERLINE.
 - 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. DO NOT GRIND TUBE AFTER SHOT PEEN.
- TURNING**
- 10) WHEN TRANSITIONING TO STOCK MAT'L, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- BENDING**
- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7% (BASED ON O.D.) IN LOWER HALF OF R30 BEND AND 6% (BASED ON O.D.) ON REMAINING TUBE.
 - 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038. TO BE PERFORMED AFTER FINAL POST-BEND GRINDING. ANY ADDITIONAL GRINDING REQUIRES ANOTHER LPI INSPECTION.
- ASSEMBLY**
- 13) INSTALL D2896-1 CENTER SUPPORT USING A 0.04" TO 0.07" THICK LAYER OF SCOTCH-WELD DP460 PER QSI 015.
 - 14) INSTALL MS21920-30 CLAMPS (OR -32) WITH D3595-063-570 RUBBER CUSHIONS TO SECURE THE D2896-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
 - 15) APPLY A THIN COAT OF PROSEAL 890 ON INSIDE CONCAVE SURFACE OF D3189-1 CHAFING SHIELD AND LET CURE PER MANUFACTURER'S INSTRUCTIONS. INSTALL PROSEALED D3189-1 CHAFING SHIELD ONTO CROSSTUBE BY APPLYING A THIN COAT OF PROSEAL 890 ONTO CROSSTUBE. BE SURE TO ELIMINATE ANY AIR GAPS.
 - 16) TORQUE CLAMPS ON D2896-1 SUPPORT 80 TO 100 IN-LB. TORQUE CLAMPS ON D3189-1 CHAFING SHIELD 40 TO 50 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER ADHESIVES HAVE CURED FOR 24 HOURS.

RELEASED
2014-05-26

20151222
342

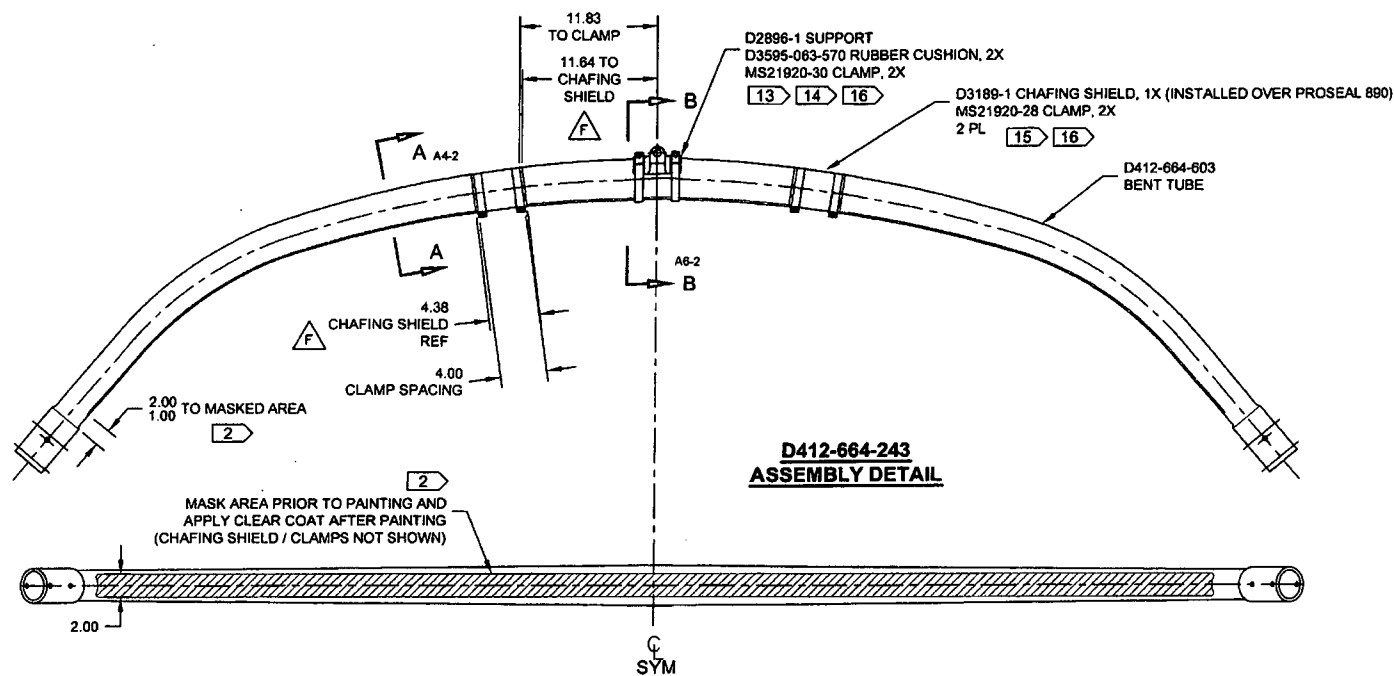
F	NOTES RE-ORDERED, SCOTCH-WELD WAS MAGNOBOND (C8-1), ADD CLAMP RETORQUE (A8-1), REMOVE ABRASION STRIP, ADD INSPECTION WINDOW (C8-1), CHAFING SHIELD NOW 4.38 WIDE (C6-2), ADD 7% CRUSHING (B8-1), CHG BEND HEIGHT TOL. TO ±0.25 (C1-3), CHG CUFF TOL. (D2-4), CLAMPS FLIPPED TO PREVENT CHAFING (B7-2, B7-3), INCORP. DEO E-2-4	CP	14.04.01
E	REFORMAT/REVISE GENERAL NOTES: REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS: RELOCATED FLAG #6 PER PAR 08-046 (ZN A6-3); ADD TOLERANCE (ZN B6-3, C4-3, C8-3 & C5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	09.09.30
D	REMOVE D2732-058, CHANGE TO D3595-063-570	PH	07.03.09
C	REMOVE D2856-600-1087, ADD D2732-058 & MAGNOBOND 6398, MS21920-32 WAS MS21920-30	MB	06.10.27
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	01.10.17
REV.	DESCRIPTION	BY	DATE
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DATE	14.04.01		

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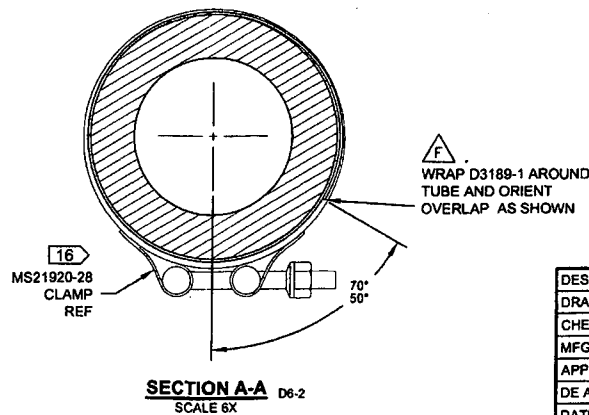
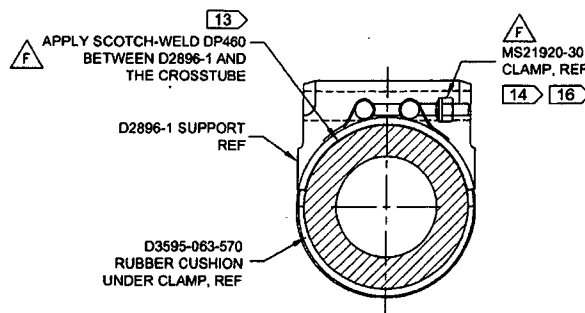
DRAWING NO. D412-664-243
SHEET 1 OF 4

TITLE CROSSTUBE ASSEMBLY (412 HI AFT)
SCALE NTS

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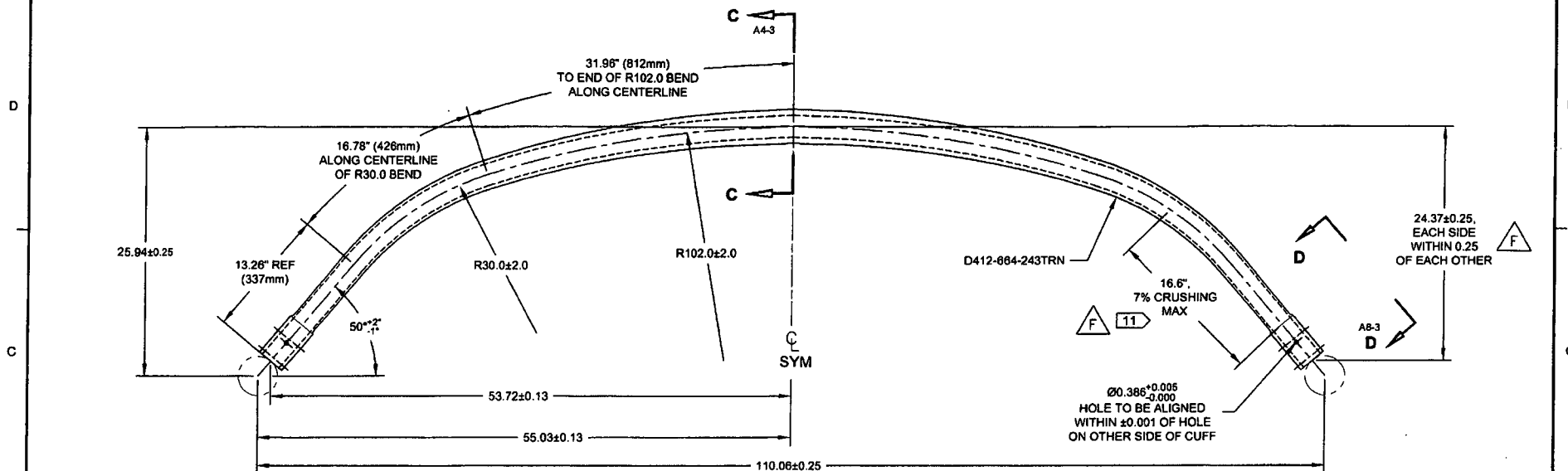


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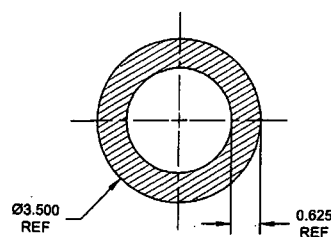
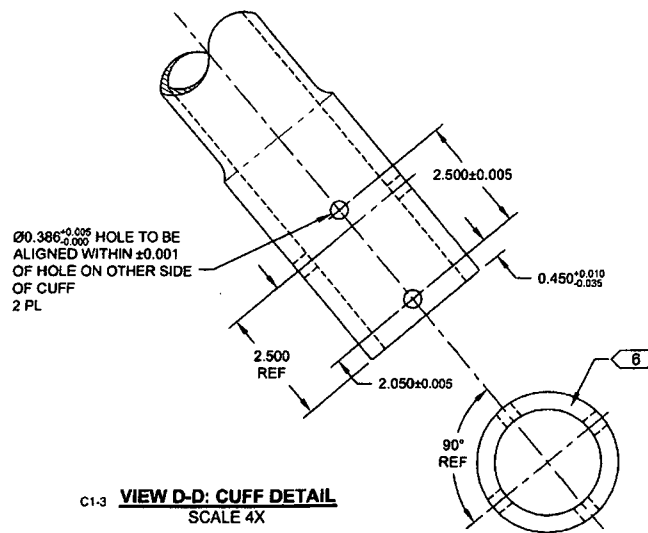


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8 7 6 5 4 3 2 1



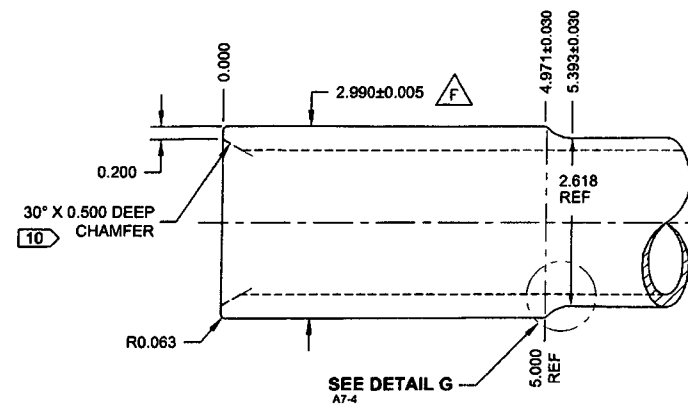
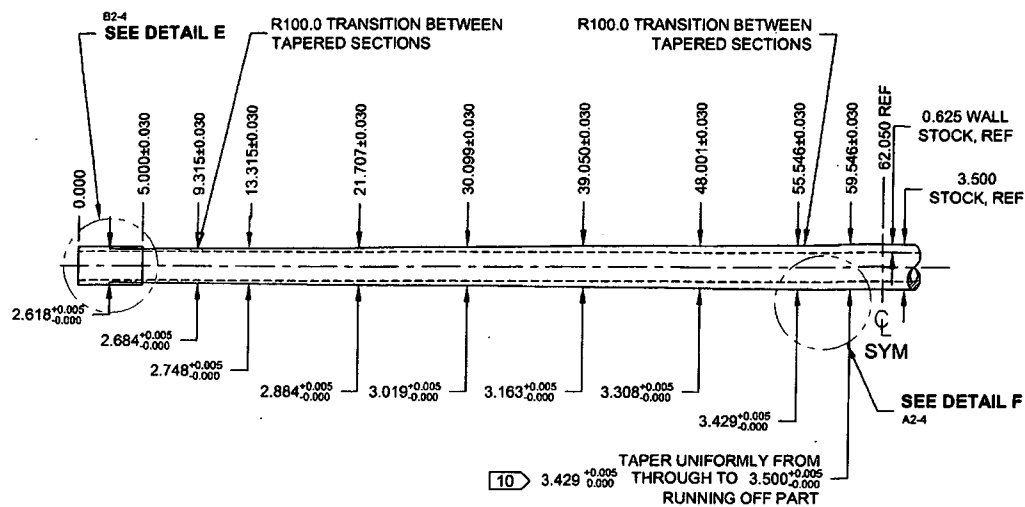
D412-664-603
BENDING AND DRILLING DETAIL



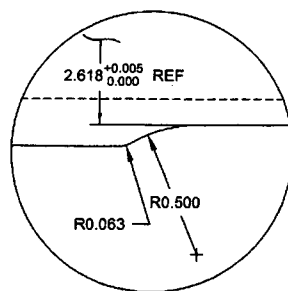
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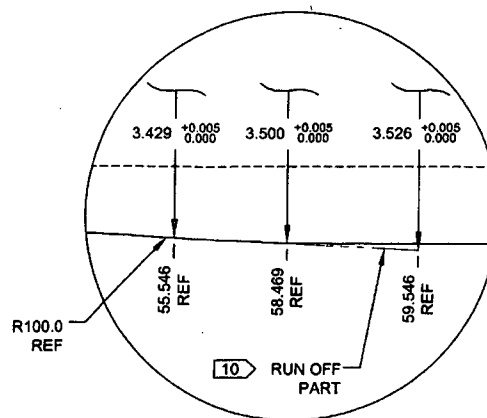
8 7 6 5 4 3 2 1



DETAIL E:
CROSSTUBE CUFF D8-4
SCALE 5X



DETAIL G:
CUFF TRANSITION C2-4
SCALE 10X



DETAIL F:
TAPER RUN-OFF C4-4
NOT TO SCALE

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2014-05-26
MD

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DE APPR.		CROSSTUBE ASSEMBLY (412 HI AFT)	NTS
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